

# L2STT

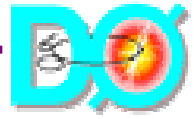
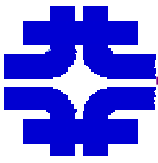
# Trigger Simulator

Silvia Tentindo-Repond, FSU

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## Outline

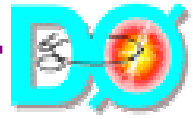
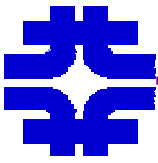
- t00.87.00 and Release
- new simulator ( Roger & Co )
- Monte Carlo studies ( clustering / roads/ tracks) : debugging
- emulator data cable files - list of tasks and people involved



## **t00.87.00 and Release (STR, HP)**

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- Most recent build of STT simulator  
OK with t00.87.00
- clean up
- move of files in between packages to  
get rid of circularities ( Translation Mgr  
moved from tsim\_l2stt to l2stt\_util )
- attempt to use RawDataChunk instead  
than UnpackDataChunk ( or the  
temporary solution with  
SmtDataChunk) - may be too early for  
this release
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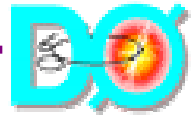
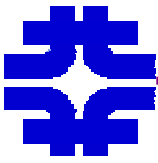


# MC studies and code debugging

(STR, WT, BL)

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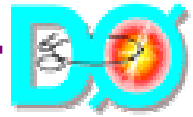
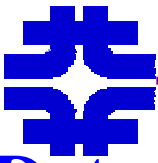
- MC sample: single muons, 50Gev pt.
- SimSMTHitChunk
- SmtDataChunk ( no UnpDataChunk at present)
- D0ev on SimSmtHitChunk seems to see less hits per event ( and per cluster) than the STT Simulator on SmtDataChunk.
- Debugging under way - testing the clustering algorithm.
- Occupancies studies vs Layers, or HDI's etc, for all samples of MC events (t tbar, t tbar+2mb, Z-> e e , Z->b b bar+2mb, QCD 40-80, muons 50Gev)



## New simulator (STR, + RM, etc)

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- As per the last D0TrigSim meeting:
- the L1L2 sim framework is released, tested with the Calorimeter packages.
- The L1L2Collector under test, almost ready to release ( t00.89.00?)
- L1L2 Parsers ( to connect the Collector to the RawDataChunk ) not ready yet.
- the Event chunk going to be replaced by a dataFlowChunk , better for trigger simulation purposes ( on the way of development )
- I/OGen - see L1L2Collector
- SmtData2RawUnp - no digits yet , digitization is needed, but digit for SMT doesn't exist yet.



## Data Streams for VHDL ( HP,STR,SI,WT) LUT (BL,WT)

- The Simulator has produced the data stream for SMT to the STC clustering .
- This code must be updated to take into account the most recent BU mods to it.
- Plans are to restructure the simulator to have a separated package to produce Data Streams.
- SMT => VHDL clustering ( STR, Shweta L )
- L1CFT => VHDL filter ( STR, Shweta L )  
FRC (Georg S )
- STC => TFC (Wendy T, Shweta L)
- STC => L3 ( Shawn Roper, STR )
- LUT CFT =>STC (Bill L, Shweta L)
- LUT STC => TFC ( Wendy T )
- *VHDL ==> C++ [ MatLab -- under test ] Shweta L.*